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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,905	06/30/2005	Peter C. Brazier	9236A	2409

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EXAMINER	
YAO, SAMCHUAN CUA	
ART UNIT	**PAPER NUMBER**
1733	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,905	BRAZIER ET AL.	
	Examiner	Art Unit	
	Sam Chuan C. Yao	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32-72* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *32-72* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 2/23/07
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 66 and 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 66 is indefinite, because it is unclear how the various materials in the Markush group are related from each other. If 4,4' MDI binder is used, does not mean that, the binder is not a one or two part polyurethane adhesive?

Claim 72 is indefinite, because the phrase "the edging strip" does not have a positive antecedent basis. For the purpose of examining this claim, this claim is assumed to be dependent on claim 71.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 32-38, 46-66, and 69-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/014462 in view of Kerr (US 5,932,317), Katoh et al (US 5,332,457), and optionally further in view of Messina et al (US 2003/0096079).

While the present invention claims priority to UK applications '103.4 and '568.9, each having a filing date of 06-13-02, these UK applications, however, do not appear to provide sufficient support to the presently claimed subject matters. For this reason, at best, the effective filing date for this application is around 06-12-03 instead of a filing date of a priority document. If Applicant disagrees with Examiner's assessment, it is suggested for Applicant to cite the passage(s) in these two applications, which provide support to each of the presently recited claims.

With respect to claim 32, WO '462 discloses a process for making a tufted carpet for use in mat applications such as automotive mats (numbered paragraphs 3 and 39). The process comprises forming a rubber backing layer including a blend of recycled rubber particles and a resin binder matrix; providing a tufted textile layer; placing the textile layer and the rubber backing layer to form a mat assembly and then heat-pressing the mat assembly using a pair of molding platens to bond layers in the mat assembly together at a pressure of at least 5 psi; wherein the particles are coated and encapsulated with the binder matrix; further wherein different temperature are used for different part of the molding platens such as using a higher molding temperature for a platen facing the textile layer while a lower molding temperature for a platen facing the rubber layer (abstract; numbered paragraphs 8, 16, 39, 50-53).

WO '462 does not teach using an inflatable diaphragm for heat-pressing a mat assembly. However, it would have been obvious in the art to use a molding press

having an inflatable diaphragm in the process taught by WO '462, because an application of a compression mold having "an inflatable diaphragm" is a carpet art recognized effective way for pressing a textile fabric to a rubber backing as exemplified in the teachings of Kerr (col. 1 lines 4-53; col. 2 lines 46-58).

WO '462 further differs from claim 1 in that WO '462 does not teach forming a backing, which has a density range of 0.5-0.9 g/cm^3. However, Katoh teaches incorporating inorganic expanded particles to a carpet backing to enhance a flame retardance of a finished carpet and also easily reduce a density of the backing to 1 g/cm^3 or less to "thereby making a contribution to weight reduction of a carpet" and further teaches forming a carpet where the backing density is around 0.68 g/cm^3. (col. 4 lines 19-43)

Lastly, WO '462 also differs from claim 1 in that, WO '462 is silent on whether there are "voids between the elastomer crumbs" in the rubber backing layer. However, such would appear to naturally flow from the teachings of WO '462 since WO '462 teaches using a latex binder matrix (i.e. water-based binder; page 5 lines 1-3), and according to Katoh et al, voids are intrinsically formed in a water-based resin matrix during a high temperature (i.e. a temperature greater than 100 °C) heat operation, as steam is generated from water in the resin matrix (col. 7 lines 14-56). In any event, it would have been obvious in the art to create voids in a matrix resin in forming a carpet of WO '462, because Katoh teaches the desirability of forming voids in a backing layer as it contributes the overall reduction in density and also provide an "excellent in cushioning effect".

Alternatively and optionally, it would have been obvious in the art to form a porous backing thereby naturally creating voids in a resin binder matrix in forming a carpet of WO '462, because: Messina et al teaches forming a porous automotive carpet mat in order to enhance the sound attenuation of the carpet mat (abstract; numbered paragraph 72; figures 10-11), which would be most desirable in a carpet of WO '462 as it is intended to be used for automotive carpet mat applications as has been noted earlier.

Note: Where ... the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. **Whether the rejection is based on "inherency" under 35 USC § 102, on prima facie obviousness" under 35 USC § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products."** In re Best, 562 F2d 1252, 1255, 195 USPQ 430, 433-4 (CCPA 1977).

With respect to claims 33-38, since: a) a lower bound (i.e. 5 psi) of an operating pressure range taught by WO '462 falls within the pressure range recited in claim 1; and, b) WO '462 teaches that varying operating temperature and pressure in order to obtain the desired thickness of a finished carpet (numbered paragraph 51), the carpet backing thickness range recited in these claims would have been obvious in the art. Furthermore, absent any showing of unexpected result, since: a) the operating temperature range is taken to be a result effective variable routinely optimized by those versed in the art; and, b) the operating temperature range also depends on an initial thickness as well as a curing temperature of a

resin binder matrix which is used in the process, the various operating temperatures recited in claims 35-38 would have been obvious in the art.

With respect to claims 46-49, the limitations in these claims are art recognized effective ways for joining a carpet layer and a curable secondary backing together, these claims would have been obvious in the art.

With respect to claims 50-56, see numbered paragraphs 16-18 of the WO '462, where vulcanized rubber particles from tires or other rubber products are disclosed. Additionally, a vulcanized nitrile rubber is an art recognized component in formulating rubber articles such as a rubber tire. As for the recited finished density, as noted earlier, WO '462 discloses a backing density of 1 g/cm^3 or less such as around 0.68 g/cm^3. As for the recited bulk density, since the density range taught by WO '462 significantly overlaps the recited density range, and since "the bulk density of the rubber crumb layer were determined, the bulk density being expressed as a percentage of the density of the material from which the crumb was made" (applicant's specification in numbered paragraph 88), then it would be reasonable to expect that the bulk densities recited in claims 51-52 to naturally flow from a carpet taught by WO '462. For these reasons, the limitations in these claims would have been obvious in the art.

With respect to claims 57-64, see numbered paragraphs 18 and 22 of the WO '462 publication, where it discloses particle size range of 5-20 mesh and using up to 15 wt% of a resin binder. Note a 10 mesh has a opening of about 2 mm. As for an amount of powdered elastomer crumb as well as a backing thickness recited

in some of these claims, such are taken to be well within the purview of choice in the art depending on desired performance characteristics for a finished carpet. For these reasons, these claims would have been obvious in the art.

With respect to claim 65-66, see numbered paragraph 20 where an NCO binder such as an MDI is disclosed. Additionally, a one or two component polyurethane binder is an art recognized effective binder for forming a carpet backing. For this reason, these claims would have been obvious in the art.

With respect to claim 69, see numbered paragraphs 19 and 28-29 of the WO '462 publication, where a coloring pigment is disclosed.

With respect to claim 70, while not explicitly stated, a primary fabric backing of WO '462 must either be a knitted textile, a woven textile, or a non-woven textile. What else could it be? In any event, such would have been obvious in the art as such is an art recognized fabric primary backing.

5. Claims 39-43 and 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 4 as applied to claim 32 above, and further in view of Hudkins et al (US 6,296,733).

The above references do not teach pressing a mat assembly in plural heating stages in a low temperature stage followed by a high temperature stage. In addition, it does not teach using a thermoplastic matrix for binding particles in a backing layer. However, it would have been obvious in the art to press a mat assembly in plural heating stages in a low temperature stage followed by a high temperature stage, because Hudkins et al, drawn to a process for making a

automotive carpet mat, teaches the desirability for pressing a mat assembly in plural heating stages in a low temperature stage followed by a high temperature stage (col. 1 lines 6-10; col. 3 line 61 to col. 5 line 62; figure 3). Moreover, Hudkins discloses using a thermoplastic material so that a finished backing can readily be recycled. (col. 3 lines 1-17). Moreover, thermoplastic resin binder such as a hot-melt polyurethane binder/adhesive is an art recognized alternative resin matrix to a thermosetting resin matrix for binding particulate materials together. It would have been obvious in the art to use a thermoplastic binder matrix such as a hot-melt polyurethane adhesive/binder for binding recycled particles in the modified process of WO '462 to enhance the recyclability of a finshed backing.

6. Claims 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 5 as applied to claim 37 above, and further in view of Desai et al (US 6,316,075).

Note: these claims 42-43 have rejected over the prior art references set forth in numbered paragraph 3. The rejection set forth herein is alternative to the one set forth above in the event that "a heated press" recited in these claims is taken to require a single press having plural heating zones.

The above prior art references do not teach using a single press having a low temperature heating zone and a high temperature heating zone. However, it would have been obvious in the art to use a press having a low temperature heating zone and a high temperature heating zone, because Hudkins et al, drawn to a process for making a automotive carpet mat, teaches using a belt

press having a series of heating platens to heat-press in-line a continuous carpet assembly (col. 8 lines 27-51; figure 2). The incentive for one in the art to use a heating press such as the one taught by WO '462 would have simply to obtain a self-evident advantage of enhancing a carpet production efficiency in a modified process of WO '462 by enabling one to heat-press a continuous carpet assembly in a plural heating zones instead of being to limited to discrete carpet assemblies.

7. Claims 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 5 as applied to claim 32, and further in view of Wing et al (US 4,657,790).

While the prior art references set forth in numbered paragraph 5 teach transporting a carpet mat assembly through a press in plural zones, these references do not teach depositing a crumb/matrix blend onto the conveyor. However, it would have been obvious in the art making a carpet of WO '462 to deposit a crumb/matrix blend onto a conveyor such that a carpet mat assembly is transported using the conveyor through a curing stage including a press having plural zones, because it is a common practice in the art of continuously making a carpet to deposit a crumb/matrix blend onto a conveyor where a carpet mat assembly is also transported through curing zone using the conveyor as exemplified in the teachings of Wing et al (figures 1-2). There is none, but only the expected result of forming and transporting a particle/matrix backing using a conveyor through a curing press would have been achieved.

8. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 7 as applied to claim 44 above, and further in view of Demott (US 4,4,00,414).

While Wing et al teaches using a spreader having a doctor blade (figures 1-2), none of the above prior art references teaches using a vibrating doctor blade. However, such would have been obvious in the art, because Demott, drawn to a process for continuously applying a latex resin on a continuously moving web, teaches using a vibrating doctor blade to make it "self-cleaning" and to achieve even wear on the blade (col. 4 lines 8-21; figure 1).

9. Claims 71-72 rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 4 as applied to claim 32 above, and further in view of Covert (US 5,800,664).

The prior art references in numbered paragraph 4 do not teach applying an edging strip around an edge portion of an underside surface of a carpet backing. However, it would have been obvious in the art to apply an edging strip around an edge portion of an underside surface of a carpet backing, as such is an art recognized effective way for carpet seaming side end portions of adjacent carpet sections as exemplified in the teachings of Covert (figures 1-3).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richard Crispino can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
05-13-07